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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,101	12/20/2001	Richard Vernon Ford	6533/53662	9681

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EXAMINER
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DALENCOURT, YVES

ART UNIT	PAPER NUMBER
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2157

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/027,101

Applicant(s)

FORD, RICHARD VERNON

Examiner

Yves Dalencourt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This office action is responsive to Request for Continued Examination filed on 07/06/2006.

### ***Response to Amendment***

The Examiner has acknowledged the amended claims 1, 7, 11, 22, 23, 24, 27, and the submission of new claims 33 – 37.

### ***Claim Objections***

Claim 31 is objected to because of the following informalities: It is suggested to insert --- to --- before identify (line 2). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 11, 23, 24, and 27 recite the limitation "the aggregate volume" or "the respective aggregate volumes " in (claims 1 and 11, line 3; claim 23, line 9; claim 24, lines 6 and 8; claim 27, line 7). There is insufficient antecedent basis for this limitation in the claim. "An aggregate volume" or "a respective aggregate volume" has not previously been identified in the claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 4, 6 - 7, 11 - 14, 16 – 19, and 33 – 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baugher et al (US 5,634,006; hereinafter Baugher) in view of Barna et al (US 6,999, 449; hereinafter Barna).

With reference to claims 1, 11, and 33 - 34, Baugher shows a method comprising the steps of: monitoring the aggregate volume of network traffic generated by a plurality of users [See lines 47-51, column 5 for "Throughput."]; detecting a network utilization milestone relative to at least one of the users [See from line 47, column 7 to line 6, column 8 for accessing MIB, which results in the notification of a process of reaching a THRESHOLD]; and changing the configuration of the network device to affect a characteristic associated with access provided to the users) identified in the detecting step [See from line 47, column 7 to line 6, column 8. It addresses changing the bandwidth ("characteristic associated with the network access") at a node, in order to change the service characteristics].

Baugher shows substantially all the limitations, but fails to specifically show monitoring, over a given time interval, the aggregate volume of data transfer corresponding to each user of a plurality of users, wherein the given time interval spans at least one week.

Barna teaches an analogous system and method of monitoring and reporting accounting data based on volume which comprises the step of monitoring, over a given time interval, the aggregate volume of data transfer corresponding to each user of a plurality of users, wherein the given time interval spans at least one week (abstract; col. 1, lines 25 - 32; col. 3, lines 3 – 27; Barna teaches the idea that the PDSN then makes a Connection 33 between the MS 11 and the IP Network or Internet 13, and the session begins. Periodically, Accounting Interim messages 34 and 35 may be sent from the PDSN to the AAA Server reporting, at time interval "t", the volume of data utilized since the start of the accounting session. One skilled in the art recognized that having " a time interval spanning at least one week " as opposed to Barna's time interval "t", which can be for example, one minute, one hour, one week, one month, and so on would be an obvious variation in the art for the purpose of achieving the same end results).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Baugher by incorporating the idea of monitoring, over a given time interval, the aggregate volume of data transfer corresponding to each user of a plurality of users, wherein the given time interval spans at least one week as evidenced by Barna by setting the time interval "t" to one week as claimed for the purpose of monitoring and reporting accounting data in IP-based telecommunications networks that is based on volume, and accurately tracks the amount of data transferred during the handoff of a mobile user, thereby restricting amount of network traffic generated by individual users.

With respect to claim 2, Baugher and Barna show all the limitations in claim 1, and Baugher further shows: affecting a performance characteristic of the network access provided to the user(s) identified in the detecting step [See from line 47, column 7 to line 6, column 8. Increasing or decreasing the bandwidths as indicated in the passage would affect the performance characteristics of the network access provided].

With respect to claim 3, Baugher and Barna show all the limitations in claim 1, and Baugher further shows wherein the affecting step comprises the step of: degrading the network access provided to the users) identified in the detecting step [Again, see from line 47, column 7 to line 6, column 8. Decreasing the bandwidth is "degrading" network access].

With respect to claim 4, Baugher and Barna show all the limitations in claim 1, and Baugher further shows wherein the affecting step comprises the step of: denying further network access to the users) identified in the detecting step [See lines 25 column 8 to line 36, in which user bandwidths allocation may fail; the user network access would fail and their access would be denied in such instances].

With respect to claim 6, Baugher and Barna show all the limitations in claim 1, and Baugher further shows the step of notifying a user when the volume of traffic associated with the user approaches a network utilization milestone [See lines 63-65, column 8, in which a user is notified when his frame size (which is changed in accordance with QoS) exceeds the maximum\_frame\_size].

With respect to claim 7, Baugher and Barna show all the limitations in claim 1, and Baugher further shows the detecting step comprises comparing the volume of traffic

associated with a user over a given time interval against a threshold level  $\epsilon$  defining a network utilization milestone. [Again, see from line 47, column 7 to line 6, column 8 and the discussion of throughput, which is the monitored QoS. See lines 47-52, column 5].

With respect to claims 12-14, 16, and 17, their limitations already have been discussed with claims 2-4, 6 and 7, respectively.

With respect to claim 18, Baugher and Barna show all the limitations in claim 11, and Barna further shows that the time interval is a fixed time interval (col. 6, lines 42 – 54).

With respect to claim 19, Baugher and Barna show all the limitations in claim 1, and Baugher further shows that the time interval is a "sliding time interval." Barna meets the limitation. Barna refers to session; see col. 6, lines 12 – 54). The duration of session is not fixed. It can be viewed as "sliding" because of the duration of use constantly increases, and the duration of monitoring would change accordingly.

Claims 5, 8 - 10, 15, 20 – 24, 26 - 32, and 35 - 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baugher and Barna in view of Amin et al, (Pub. No. 2002/0152319, Amin hereinafter). Amin incorporates U. S. Pat. No. 6,714,987, to Amin et al (Amin2 hereinafter) by reference.

With respect to claim 5, Baugher and Barna do not show the step of charging the first user identified in the detecting step for further network access, but Amin shows the affecting step comprises the step of charging the user(s) identified in the detecting step for further network access [See paragraphs 0177-0198 for charging QoS (e.g., allocating more bandwidth) and see paragraph 0010 for billing the users based on

QoS]. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Baugher and Barna with the above features that Amin shows, because, as stated in paragraphs 0011 of Amin's disclosure, Amin's billing"[edited] feature is an advantage to the operator and allows for full compensation of network resource use.

With respect to claim 8-10, their limitations have been discussed with respect to claims 3, 4, and 1, respectively, except that claims 8-10's limitations are cited in the context of "predefined set of traffic types." However, Amin illustrates predefined traffic types in paragraphs 0152-0154.

With respect to claims 15 and 20-22, their limitations have been discussed with respect to claims 5, 8-10, respectively.

In reference to claim 23, it cites the following limitations that have not yet been discussed with regard to claims 1-22: registering a user at a network access device connected to a first computer network, the network access device including an IP address, and associating the IP address with the user [see Barna col. 5, line 25 through col. 6, line 56]; In addition, the claim 23 refers to "changing the configuration of the network." Baugher meets the limitation because Baugher changes bandwidth in response to network measurements, as discussed in claim 1.

Baugher and Barna shows substantially all the limitations, but fail to show the step of providing the user access to a second computer network by changing the configuration of a network device in a communication path between the first computer



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network and the second computer network [See paragraph 0031 for giving access to applications in the Internet].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Baugher and Barna with the above features that Amin shows in order to allow operator for full compensation of network resource use.

Claim 24 cites an apparatus facilitating the deployment of volume-based network policies across a first computer network, the first computer network comprising at least one traffic monitoring device operative to monitor the volume of network traffic generated by individual users, and at least one network control device operative to control access to a second computer network, comprising [The limitations have been discussed with respect to claim 23 and preceding claims] a user account database maintaining the respective volumes of network traffic generated by a plurality of users [See from line 65, column 18 to line 2, column 19, Amin2 The user database for sessions exists locally]; a data logging module operative to collect network utilization data from the traffic monitoring device and store the network utilization data in the user account database [the logging module is inherent in Amin2. Session data referred to from line 65, column 18 to line 2, column 19 exists only because the data have been logged]; a network usage monitor operative to: scan the user account database to detect a network utilization milestone reached by a user based on the volume of network traffic associated with the user [See lines 35-57, column 19, Amin2, for instantiation of service session by user invocation. The instantiation involves scanning the database. Note that the instantiated user account information is then used later for

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QoS service requirements]; modify the configuration of the network control device to affect a characteristic of access to the second computer network for the user [The limitation has been discussed with respect to preceding claims 1-23].

With respect to claim 26, Amin2 teaches the apparatus, in response to registration of a new user, is operative to modify the configuration of the network control device to allow access to the second computer network for the new user. See from line 53, column 15 to line 10, column 16 for path selection when a "new" user is "registered."

With respect to claim 27, a system facilitating the deployment of volume-based network policies across a first computer network, comprising a bandwidth management device operably connected to a communication path between the first computer network and a second computer network, wherein the bandwidth management device is operative to [Baughner shows the bandwidth manager, see lines 46-65, column 8, Baughner. Amin shows the core network service provided between the first and the network. See RAN between the Internet and the user, in Fig. 2]: monitor the volume of network traffic generated by individual hosts on the first computer network [See lines 47-51, column 5 for "Throughput" in Barna], and enforce bandwidth utilization controls associated with individual hosts on data flows generated by the respective individual hosts [See from line 47, column 7 to line 6, column 8, Baughner. It addresses changing the bandwidth ("characteristic associated with the network access") at a node, in order to "enforce" the service characteristics]; a user management server operative to: detect a network utilization milestone based on the volume of network traffic associated with an individual host [See from line 47, column 7 to line 6, column 8 in Baughner for

accessing MIB, which results in the notification of a process of reaching a THRESHOLD] and, in response to a network utilization milestone, change the configuration of the bandwidth management device to associate bandwidth utilization controls corresponding to the milestone with the individual host [See from line 47, column 7 to line 6, column 8, Baugher. It addresses changing the bandwidth ("characteristic associated with the network access") at a node, in order to "enforce" the service characteristics].

Baugher and Amin show substantially all the limitations, but fails to specifically show such monitoring over a given time interval, wherein the given time interval spans at least one week.

Barna teaches an analogous system and method of monitoring and reporting accounting data based on volume which comprises the step of monitoring, over a given time interval, the aggregate volume of data transfer corresponding to each user of a plurality of users, wherein the given time interval spans at least one week (abstract; col. 1, lines 25 - 32; col. 3, lines 3 - 27; Barna teaches the idea that the PDSN then makes a Connection 33 between the MS 11 and the IP Network or Internet 13, and the session begins. Periodically, Accounting Interim messages 34 and 35 may be sent from the PDSN to the AAA Server reporting, at time interval "t", the volume of data utilized since the start of the accounting session. One skilled in the art recognized that having "a time interval spanning at least one week" as opposed to Barna's time interval "t", which can be for example, one minute, one hour, one week, one month, and so on would be an obvious variation in the art for the purpose of achieving the same end results).

With respect to claim 28, Amin shows wherein the bandwidth management device is operative to redirect data flows generated by unknown hosts on the first computer network to the user management server [In Amin2, note that the initial configuration of the system is such that the network traffic is routed to the user management server (or access function). See lines 36, column 15 to lines 2, column 16, Amin2] and wherein user management server is operative to register unknown hosts and change the configuration of the bandwidth management device to associate the host with bandwidth utilization controls operative to permit access to the second network [See from line 57, column 15 to line 2, column 16, Amin2. Amin2 describes traffic path redirection (connection manager, part of bandwidth manager in the combination) upon being granted access by "access function." The access function (user management server) is part of Baugher, Barna and Amin combination].

With respect to claim 29, Baugher and Barna show the controls associated with the milestone are operative to deny access, as already discussed in claim 4. Baugher and Barna do not show denying access to the second network. However, Amin does show the second network ("Internet") in Fig. 2.

With respect to claim 30, Baugher and Barna show the bandwidth utilization Controls associated with the milestone are operative to degrade, as discussed in claim 3. Baugher and Barna do not show degrading the access to the second computer network. However, Amin shows the second network ("Internet") in Fig. 2.

With respect to claim 31, Baugher, Barna and Amin show the following limitations: wherein the bandwidth management device is further operative to identify

network traffic types associated with data flows traversing the device [See paragraphs 0153-0154, Amin. NGN accounting management architecture has UAEs and SAEs to capture usage data for each type. In view of Amin and Barna, "the bandwidth management device" would refer to the combination of Amin's traffic monitoring function and Barna accounting management's function for establishing UAEs and SAEs] and wherein the user management server is operative to configure bandwidth utilization controls applicable to traffic types identified by the bandwidth management device. [Amin shows that different categories of QoS that can be changed in paragraphs 0153 and 0154. In view of Amin and Barna, the "user management server" would refer to the combination of Amin's traffic shaping function and Barna's QoS changing function].

Claim 32 cites that the bandwidth management device and the user management server reside on the same device. The limitation is not shown in any of the references noted above. However, Baugher shows that the bandwidth manager or any of its functions can be implemented in software. See lines 11-30, column 3, Baugher. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the bandwidth manager and user management server on the same device, depending on hardware scarcity, because the user management server and the bandwidth manager can both be implemented in software as explained in the preceding paragraph and in Baugher. Note that one of the key advantages of implementing network component in software is that such design allows the designer to optimize network throughput given hardware availability, by grouping software servers on designated machines.

With respect to claims 35 - 37, their limitations have been discussed with respect to claims 23-24, and 27, respectively.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baugher, Barna and Amin as applied to claim 25 above, and further in view of Makuck.

With respect to claim 25, Baugher, Barna and Amin do not show comprising a user interface module operative to register new users and create corresponding user accounts in the user account database. However, Makuck meets the limitation in paragraphs 0149-0151 and Fig. 8. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a user interface as cited in Makuck for creating new user account, because the combination of Baugher, Barna and Amin would not be able to create with new user account and thus service new users. The creation of new user accounts must occur prior to servicing users; otherwise, there would not be able to service users based on QoS.

#### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yves Dalencourt whose telephone number is (571) 272-3998. The examiner can normally be reached on M-TH 7:30AM - 6: 00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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April 07, 2007

A handwritten signature in black ink, appearing to read "Yves Dalencourt", with a long, sweeping horizontal line extending to the right.

**YVES DALENCOURT**  
**PRIMARY EXAMINER**  
**TECHNOLOGY CENTER 2100**